

REMARKS

Claims 1-3, 5, 6, 8, 9, and 15-28 are pending. By this Amendment, Applicants amend the specification for clarity. Figures 14A-14D are replaced. No new matter is added.

Applicants respectfully assert that entry of the amendments to the specification and entry of replacement Figs. 14A-14D is proper under 37 CFR §1.116 since the amendments and replacement figures: (a) place the application in condition for allowance for the reasons discussed herein; (b) do not raise any new issue requiring further search and/or consideration since no amendments have been made to the claims; (c) do not present any additional claims without canceling a corresponding number of finally rejected claims; and (d) place the application in better form for appeal, should an appeal be necessary. Finally, the Amendments and replacement Figs. 14A-14D were approved by Examiner Dinh during the November 8 telephone interview and Examiner Dinh agreed that they would be entered. Thus, Applicants respectfully request entry of the amendments to the specification and replacement Figs. 14A-14D.

Applicants gratefully acknowledge the Office Action's indication that claims 9, 20, and 21 recite allowable subject matter. However, Applicants respectfully submit that all of pending claims 1-3, 5, 6, 8, 9, and 15-28 are allowable for at least the following reasons.

Applicants appreciate the courtesies extended to Applicants' representative by Examiner Dinh during the September 14 personal interview and November 8 telephone interview. Applicants incorporate a separate record of the interviews into the following remarks.

The Office Action rejects claims 15-20, 22-24, and 27-28 under 35 U.S.C. §112, first paragraph, for failing to comply with the written description requirement. Applicants respectfully traverse the rejection.

By this Amendment, Applicants amend the paragraph beginning on page 29, line 14, and replace Figs. 14A-14D for clarity. As agreed during the November 8 telephone interview, no new matter is added. Furthermore, as agreed during the November 8 telephone interview, at least the paragraph beginning on page 29, line 14, and replacement Figs. 14A-14D describe both a power supply region 11 and a ground region 12 that are adjacent and in the same plane (page 29, amended lines 15-17) and a power supply region 11 that is entirely surrounded by the ground region 12 (replacement Fig. 14C).

Accordingly, these features of claims 15-20, 22-24, and 27-28 are properly supported in Applicant's disclosure. Applicants respectfully request withdrawal of the rejection.

The Office Action rejects claim 23 under 35 U.S.C. §112, second paragraph, as indefinite. Applicants respectfully traverse the rejection.

Initially, Applicants note that the Office Action is not alleging that the language of claim 23 is indefinite. Claim 23 clearly recites that the power supply region and ground region face each other without overlapping. Rather, the Office Action seems to be alleging that either the description does not support such a feature (properly rejected under §122, first paragraph) or that Applicants have not enabled such a feature (properly rejected under §112, second paragraph's enablement requirement). Thus, the rejection is improper.

Regardless, as discussed in detail during the May 20, 2004 personal interview and agreed during the October 8 telephone interview, the power supply region 11 and the ground region 12 may face each other without overlapping, i.e., they are adjacent, contiguous, and in the same plane (page 29, amended lines 14-19). Furthermore, as discussed in detail during the May 20, 2004 personal interview and agreed during the October 8 telephone interview, the portions of page 29 relied on as allegedly contradictory are for the purpose of comparison between different embodiments and are not intended to limit the embodiments depicted in Figs. 14A-14D. Thus, Applicants respectfully request withdrawal of the rejection.

The Office Action rejects claims 15-18, 22, 24, 27 and 28 under 35 U.S.C. §102(b) over U.S. Patent 5,898,576 to Lockwood et al. (hereinafter "Lockwood"). Applicants respectfully traverse the rejection.

Applicants respectfully submit that the Office Action has failed to properly consider a feature recited in claim 15. Specifically, the Office Action fails to allege that Lockwood discloses a power supply region and a ground region that are adjacent and are formed in the same plane, as recited in claim 15. It was agreed during the May 20, 2004 personal interview that Lockwood fails to disclose this feature.

Lockwood specifically discloses a power-ground plane construction 30 including a separate power plane 32 and a ground plane 34 that are rectangular in shape and has each of four sides as well as edges. The power plane 32 and the ground plane 34 are connected by a set of termination elements 48, and a dielectric layer 36 is disposed between the power plane 32 and ground plane 34 (col. 5, line 49 - col. 6, line 37, Fig. 8).

Lockwood, therefore, discloses a separate power plane 32 and ground plane 34 which must be disposed separately on different planes with a dielectric 36 disposed between them and must have termination elements 48 that span between the different planes 32, 34 across the dielectric 36. Thus, Lockwood fails to disclose or suggest a power supply region and a ground region that are formed in the same plane, as recited in claim 15.

Accordingly, claim 15 is patentable over Lockwood. Further, Applicants respectfully submit that claims 16-18, 22, 24, 27 and 28, are patentable for at least the reasons that claim 15 is patentable, as well as for the additional features they recite. Applicants respectfully request withdrawal of the rejection.

The Office Action rejects claims 1, 5, 6, 8, 19, 25 and 26 under 35 U.S.C. §103(a) over Lockwood in view of U.S. Patent 5,926,377 to Nakao et al. (hereinafter "Nakao"). Applicants respectfully traverse the rejection.

Initially, Applicants note that the rejection of claim 19 is premised upon the presumption that Lockwood discloses all of the features of claim 15. Because, as discussed above, Lockwood does not disclose all of the features of claim 15, the rejection is improper. Applicants respectfully request withdrawal of the rejection of claim 19.

With respect to claims 1, 5, 6, 8, 25 and 26, Applicants respectfully concur that Lockwood fails to disclose a circuit board device having a power supply region divided into two or more power supply regions by a slit, as recited in claim 1. However, Applicants respectfully disagree that such is obvious based on the teaching of Nakao. In fact, Nakao fails to disclose having a power supply region divided into two or more power supply regions.

As described on page 6, lines 8-9 of Applicants' disclosure, the divided power supply layer is able to supply different power supply voltages. Further, in order to supply different power supply voltages, the potentials in each of the divided power supply regions must be different. Such is possible only when a power supply region is divided.

In Nakao, it is disclosed that there is no division of the power source layer 2 but that only a cut 7 is formed thereon so that the region containing a noise source 5 is formed. However, the cut 7 or 9 still allows the region with the noise source 5 to be connected to the other region by an exit 8 where a capacitor 10 is formed to pass a high frequency current to the ground layer 3 (Figs. 1b, 1c, col. 4, lines 3-20). As disclosed in Nakao, the cut 7 or 9 is formed so that the resonance frequency of the printed board will increase because the distance between noise source 5 and the edge 6 of the power source layer is shortened by the cut 7 or 9 (col. 3, lines 64-67).

The Office Action maintains that Nakao discloses a power supply region divided into two or more power supply regions by a slit. The power supply region 2 in Nakao may have a slit 7, 9, but that slit 7, 9 does not "divide" the power supply region as the term is used in Applicants' specification. "Divide" is commonly defined as "to separate from something else;

to cut off" (The American Heritage College Dictionary 3ed. 405). It is clear from the specification and the general definition of divide that, at least, dividing something results in two separate pieces (e.g., power supply surfaces 11A and 11B). In Nakano, the power supply region 2 with the slit 7 or 9 is referred to as a single entity throughout the disclosure. Thus, it cannot reasonably be considered divided.

Furthermore, as discussed during the September 14 personal interview, even if the power supply region of Nakano could be considered divided (which Applicants traverse), there is no motivation to combine the allegedly divided power supply region of Nakano with Lockwood. The Office Action alleges that one would be motivated to combine Lockwood and Nakano in order to "provide an increasing resonance frequency of a printed circuit board." This reasoning is flawed for two reasons.

First, Lockwood is not at all concerned with the resonance frequency of the printed circuit board (PCB). Lockwood is merely concerned with reducing resonance in general. Accordingly, there is no reason to change the resonant frequency of the PCB of Lockwood as suggested by the Office Action.

Second, dividing the power plane 32 in Lockwood would completely defeat the stated objective of Lockwood. In order to reduce resonance of the PCB in Lockwood, a number of termination elements 48 are placed at the end of the power plane 32. For these termination elements to work properly, they must be regularly spaced along imaginary longitudinal strips of the power plane 32. Thus, if the power plane 32 was partially divided by a slit, as suggested by the Office Action, the termination elements would be inoperable and the object of Lockwood would be defeated.

In view of at least the forgoing, the alleged combination of Lockwood and Nakano cannot reasonably be considered to disclose, teach, or even suggest all of the features of claim 1. Further, applicants respectfully submit that claims 5, 6, 8, 19, 25 and 26 are patentable for

at least the reasons that claim 1 is patentable, as well as for the additional features they recite.

Applicants respectfully request withdrawal of the rejection of claims 1, 5, 6, 8, 19, 25 and 26.

In view of at least the foregoing, Applicants respectfully submit that this application is in condition for allowance. Applicants earnestly solicit favorable reconsideration and prompt allowance of claims 1-3, 5, 6, 8, 9, and 15-28.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, Applicants invite the Examiner to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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Attachments:
Replacement Sheets

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<p>DEPOSIT ACCOUNT USE AUTHORIZATION Please grant any extension necessary for entry; Charge any fee due to our Deposit Account No. 15-0461</p>
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Amendments to the Drawings:

The attached replacement drawing sheets makes changes to Figs. 14A-14D and replace the original sheet with Figs. 14A-14D. No new matter is added.

Attachment: Replacement Sheets